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Letter to the Editor

Response to Karch

To the editor,

Steven B. Karch says he never intended to ridicule forensic toxicology or forensic toxicologists, which is a bit hard to swallow considering the rubric of his article *"Is post-mortem toxicology quackery*." He fails to mention the incorrect calculations dealing with distribution volume of methamphetamine and his attempt to estimate the dose administered from the measured blood-concentration of this stimulant.

I disagree with Karch that analysis of the heroin metabolite 6-acetyl morphine (6-AM) in the Liddell case would have been meaningless. The presence or absence of this specific heroin metabolite, which has a short elimination half-life, might have given a clue about how long Mr. Liddell survived after the last dose of heroin was administered.

Contrary to Karch's opinion, the in vitro study by Skopp et al.[1] into the stability of morphine glucuronides in post-mortem blood is highly relevant, which is probably the reason she was called as an expert witness in the first place. I have no knowledge about her testimony in the Liddell case, but the data in Table IV and Fig. 2 of her article speak towards a fairly good stability of morphine metabolites in post-mortem blood. Even when the blood samples were kept at room temperature for 20 days exposed to light the free-morphine concentration increased by ~30%. After 3 days at room temperature, which is closer to the conditions in the Liddell case (73 h), hydrolysis of the morphine conjugates back to free-morphine should not have been a major problem.

In the cadaver study, which Karch considers more relevant, between 2.5 and 66 h (mean 15 h) elapsed after death before admission.[2] During this period the cadavers were presumably at ambient temperature and morphine and metabolite concentrations on admission are the closest one can come to knowing what they were at the time of death. The time between admission and autopsy ranged from 8.5 to 83 h (mean 44 h). The concentrations of morphine, morphine 3- and morphine-6-glucuronides on admission and at autopsy showed remarkably good agreement, which supports the stability of these drugs in blood of intact cadavers.

The fact remains that Dr. Karch was hired as an expert for the defence and this was not mentioned anywhere in the article appearing in this journal. Whether this lack of transparency was an oversight or dishonesty on his part is for others to decide. Dr. Karch ends by suggesting that I might have an ulterior motive in responding to his article "*Is post-mortem toxicology quackery*." With such a provocative rubric it astonishes me that others have not reacted sooner.

Conflict of Interest

I hereby declare that I have no conflict of interest in responding to the comments made by Steven B. Karch about my postcard from Sweden.

References

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